

***Remarks***

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing Amendment, claims 1, 4-6, 8-17, and 19-30 are pending in the application, of which claims 1, 14, 21, and 27 are independent. By the foregoing Amendment, claims 1, 4, 6, 8, 10-13, 21, 22, and 24 are sought to be amended. No new matter is embraced by this amendment and its entry is respectfully requested. Based on the above Amendment and the remarks set forth below, it is respectfully requested that the Examiner reconsider and withdraw all outstanding rejections.

***Rejection under 35 U.S.C. § 112***

The Examiner, on page 2 of the Office Action, has rejected claims 1, 4-6, 8-13, and 21-26 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner states that with regards to claims 1 and 21, line 8, and claim 4, line 2, it is not clearly understood whether “a task” refers to “a task” in line 5. The Examiner also states that with regards to claim 4, lines 1-4, it is not clearly indicated whether “a task” refers to “a task” in claim 1, line 5. And lastly, the Examiner states that with regards to claim 13, lines 1-2, it is not clearly indicated whether “a task generating task” refers to “a task” or “a taskq task” in claim 1, lines 5-11. Applicant has amended claims 1, 4, 13, and 21 to overcome this rejection. Applicant respectfully requests that the Examiner review the amended claims and withdraw this rejection.

***Rejection under 35 U.S.C. § 103***

The Examiner, on page 3 of the Office Action, has rejected claims 1, 4-6, 8-17, and 19-30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,823,351 to Flood *et al.* (hereinafter “Flood”) in view of U.S. Patent Application Publication No. US 2003/0005025 A1 to Shavit *et al.* (hereinafter “Shavit”). Applicant respectfully traverses this rejection. Based on the remarks set forth below, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

With respect to independent claim 1, the Examiner states that Flood substantially teaches the invention as claimed. Applicant respectfully disagrees.

Flood does not teach or suggest every element of Applicant’s invention. For example, Flood does not teach or suggest at least Applicant’s elements of: “determining if the second stack of tasks contains a task that can be executed by the first thread by examining a bit mask, wherein the bit mask is locked before the bit mask is examined” and “wherein if the executed task is a taskq task, storing any additional tasks generated by the taskq task in the second stack.”

Unlike the present invention, Flood does not lock the bit mask before the bit mask is examined. Instead, Flood teaches “copying the work to lockable auxiliary queues from which work may be stolen” (*Flood*, col. 4, lines 18-20). Flood also teaches if pushing another object pointer onto its queue would overflow the queue, the thread will obtain a lock on the overflow data structure. *Flood*, col. 11, lines 32-51; col. 12, lines 11-13. Thus, unlike the present invention which locks the bit mask before the bit mask is examined, Flood teaches copying the work to lockable auxiliary queues and obtaining a lock on the overflow data structure.

The Examiner further states on page 4 of the Office Action that:

Flood does not explicitly teach that if the executed task is a taskq task, storing any additional tasks generated by the taskq task in the second stack. However, Shavit teaches if the executed task is a taskq task, storing any additional tasks generated by the taskq task in the second stack (paragraph 87 – paragraph 88; paragraph 96, lines 11-19; claim 1, lines 11-19).

Applicant respectfully disagrees. Shavit does not solve the deficiencies of Flood. Shavit does not teach or suggest Applicant's element of "if the executed task is a taskq task, storing any additional tasks generated by the taskq task in the second stack." Instead, the sections of Shavit cited by the Examiner disclose a degenerate tree (FIG. 11, para. [0088]), the contents of a task queue after successive task executions if the tasks are selected for execution in a last-in, first-out manner (FIG. 12, para. [0089]), and the content sequence that results when the task sequence is selected in a first-in, first-out manner (FIG. 13, para.[0089]). At para. [0096], Shavit defines what happens when an executing thread has exhausted its own work queue. If a task identifier is found, the executing thread performs the task identified. *Shavit*, para. [0096], lines 10-12. The executing thread may push further tasks onto its work queue in the course of performing that task. *Id.*, at lines 12-14. Other tasks may also have been pushed onto the executing thread's work queue in the course of finding the task identifier. *Id.*, at lines 14-17. Thus, the executing thread, after performing the task, may now be able to pop task identifiers from its own work queue. *Id.*, at lines 17-19. Thus, unlike the present invention, which stores any additional tasks generated by the taskq task in the second stack, Shavit teaches pushing further tasks onto the work queue of the executing thread.

Therefore, neither Flood nor Shavit, separately or in combination, teach or suggest Applicant's claimed invention as recited in independent claim 1. For at least the reasons stated above, claim 1 and the claims that depend therefrom (claims 4-6 and 8-13) are patentable over the cited references. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1, 4-6, and 8-13.

Independent claims 14, 21, and 27, include similar elements as those recited in claim 1. Thus, for at least the reasons stated above with respect to claim 1, claims 14, 21, and 27, and the claims that depend therefrom (claims 15-17 and 19-20, claims 22-26, and claims 28-30, respectively), are also patentable over the cited references. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claims 14, 21, and 27, and the claims that depend therefrom, respectively.

***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all currently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Response is respectfully requested.

Respectfully submitted,

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